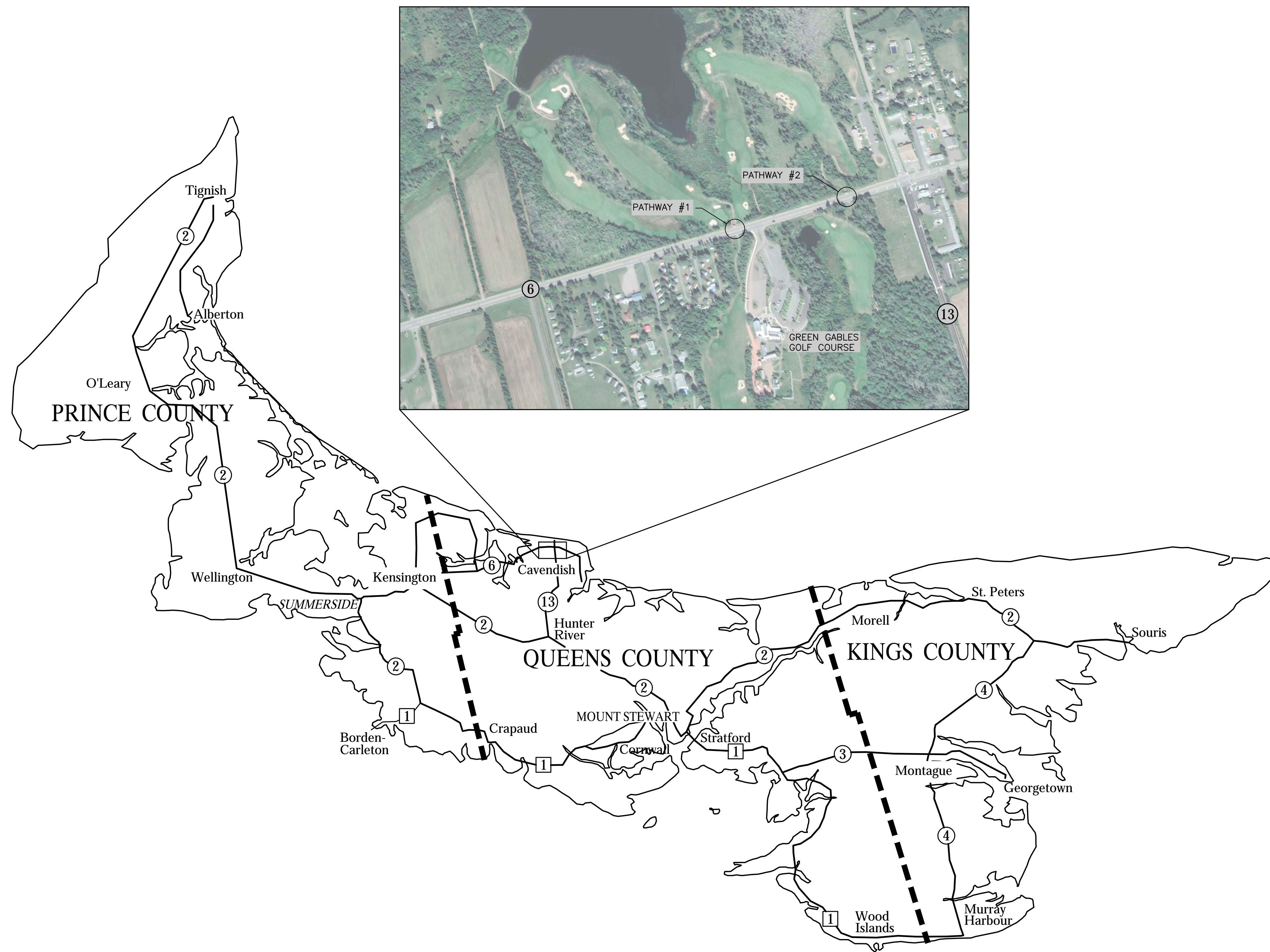


# GREEN GABLES GOLF COURSE

## NEW CART PATH RETAINING WALLS

### PRINCE EDWARD ISLAND NATIONAL PARK

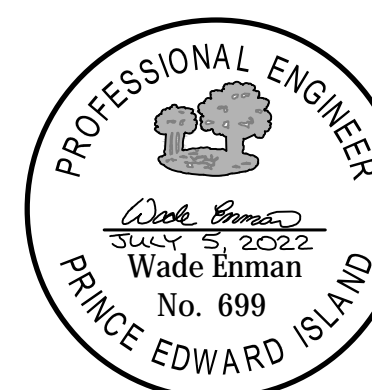


#### DRAWING LIST

##### STRUCTURAL

- S1 EXISTING SITE CONDITIONS
- S2 NEW RETAINING WALL LAYOUT PLANS
- S3 NEW RETAINING WALL PW#1 ELEVATIONS
- S4 NEW RETAINING WALL PW#2 ELEVATIONS
- S5 NEW RETAINING WALL DETAILS

- NOTES:**
- SEE ALL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS.
  - TOPOGRAPHIC SURVEY FOR THIS PROJECT WAS CONDUCTED BY WSP ON JULY 9, 2021.
  - ELEVATIONS ARE GIVEN IN METRES AND DECIMALS THEREOF.
  - ALL EXISTING INFORMATION GIVEN ON THIS DRAWING IS TO BE CONSIDERED APPROXIMATE ONLY, AND IS NOT TO BE CONSTRUED AS TOTALLY COMPLETE. PRIOR TO ANY CONSTRUCTION ACTIVITY IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM ALL REQUIRED INFORMATION REGARDING EXISTING CONDITIONS (i.e. TELEPHONE, ELECTRIC, WATER AND SEWER PIPES).
  - AN INVESTIGATION OF UNDERGROUND INFRASTRUCTURE (ELECTRICAL AND COMMUNICATIONS) HAS NOT BEEN CARRIED OUT AS PART OF THE SURVEY. WHERE UNDERGROUND INFRASTRUCTURE IS DEPICTED ON THIS PLAN, IT IS TO BE CONSIDERED APPROXIMATE AND IS TO BE CONFIRMED ON-SITE. OTHER BURIED UTILITIES MAY EXIST WITHIN THE LIMITS OF THE SURVEY AREA WHICH MAY NOT BE SHOWN AS A RESULT OF INSUFFICIENT INFORMATION.



0 ISSUED FOR TENDER 22/07/05

project **GREEN GABLES GOLF COURSE CART PATH RETAINING WALLS REPLACEMENT**

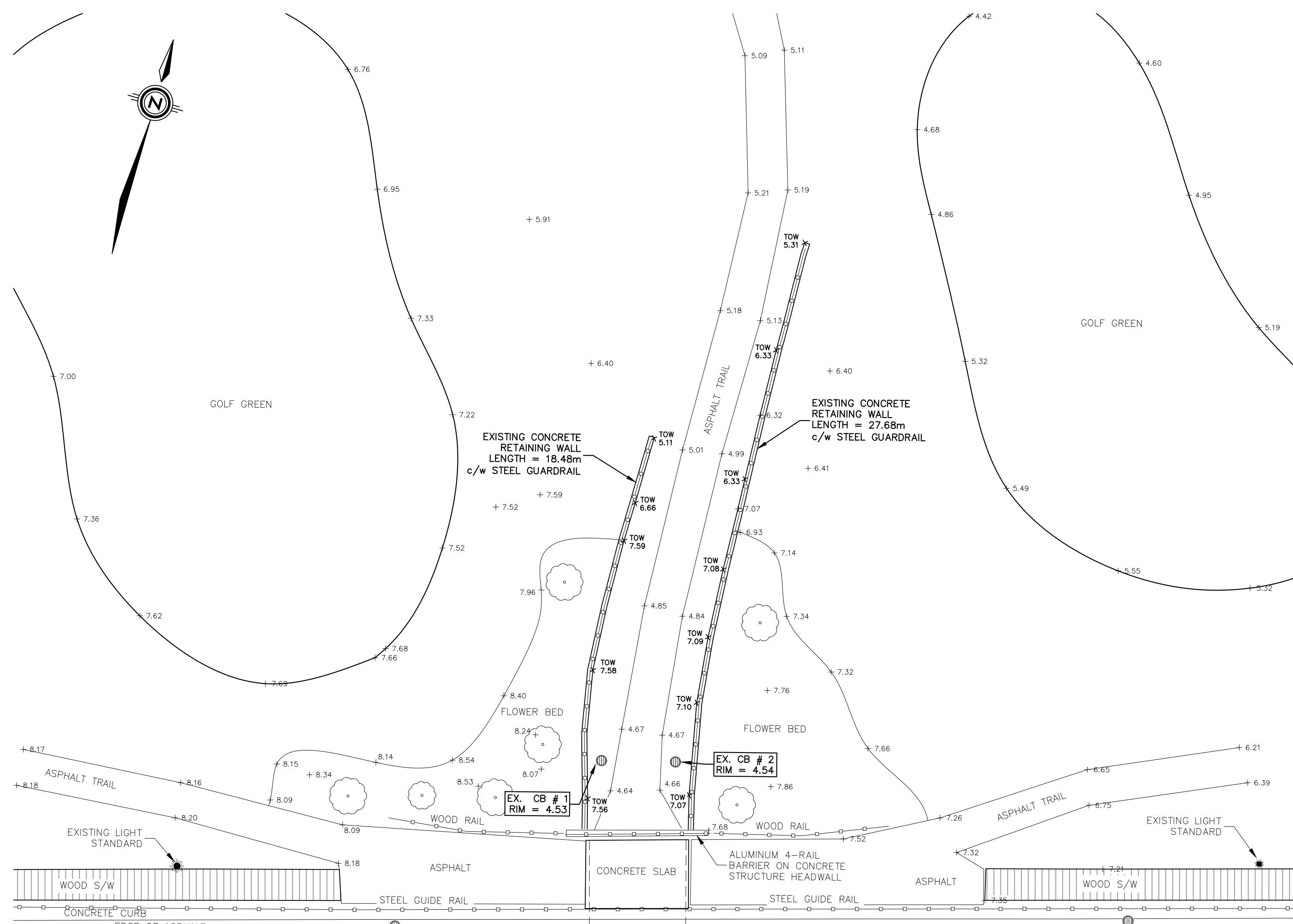
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designed	WE	comp
date	2021-12-17	
drawn	DB	dessiné
date	2021-12-17	
approved	WE	approuvé
date	2021-12-17	
Tender		Soumission

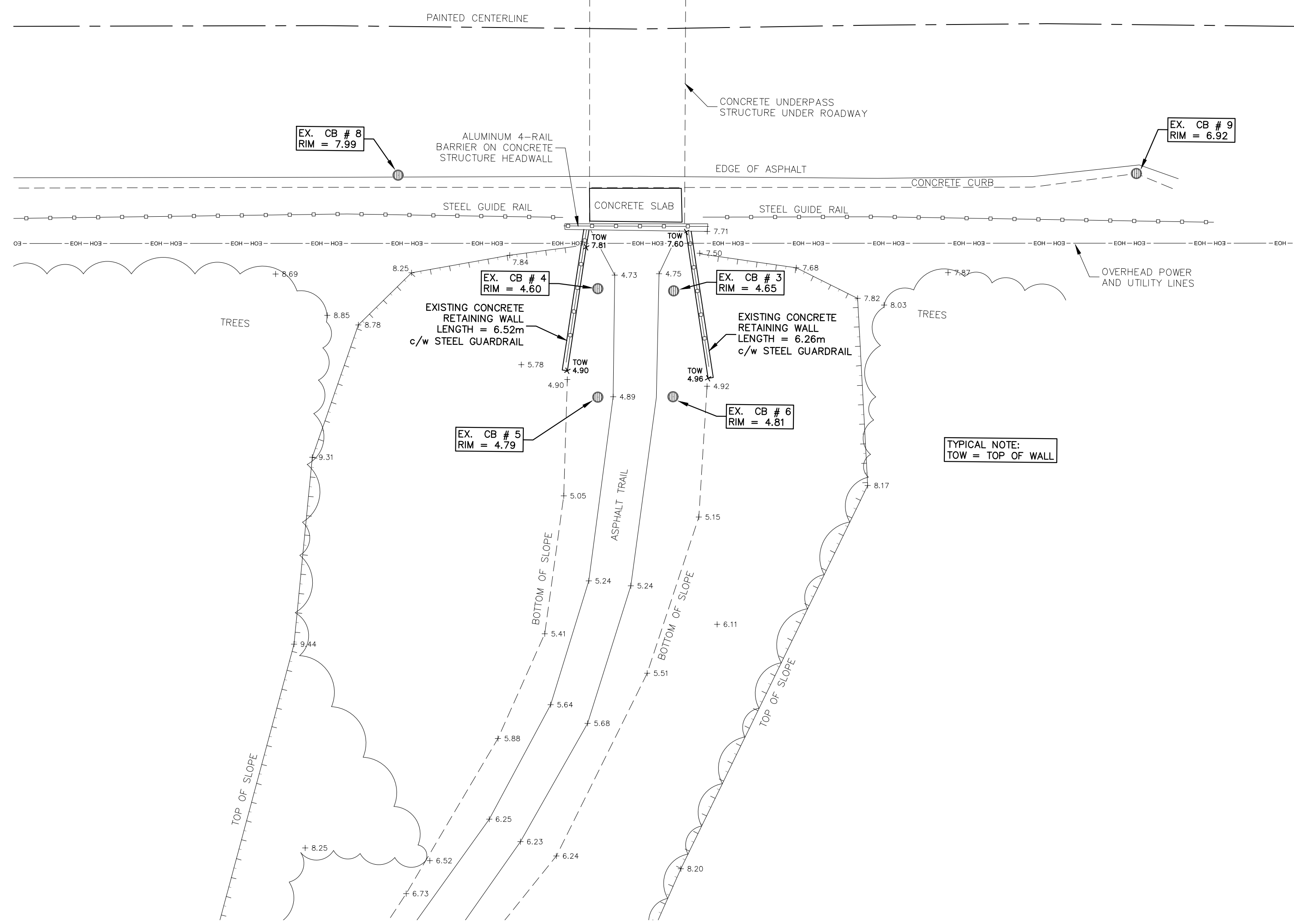
PWGSC Project Manager Administrateur de projets TPSGC  
project number no. du projet

drawing no. no. du dessin

**S1**

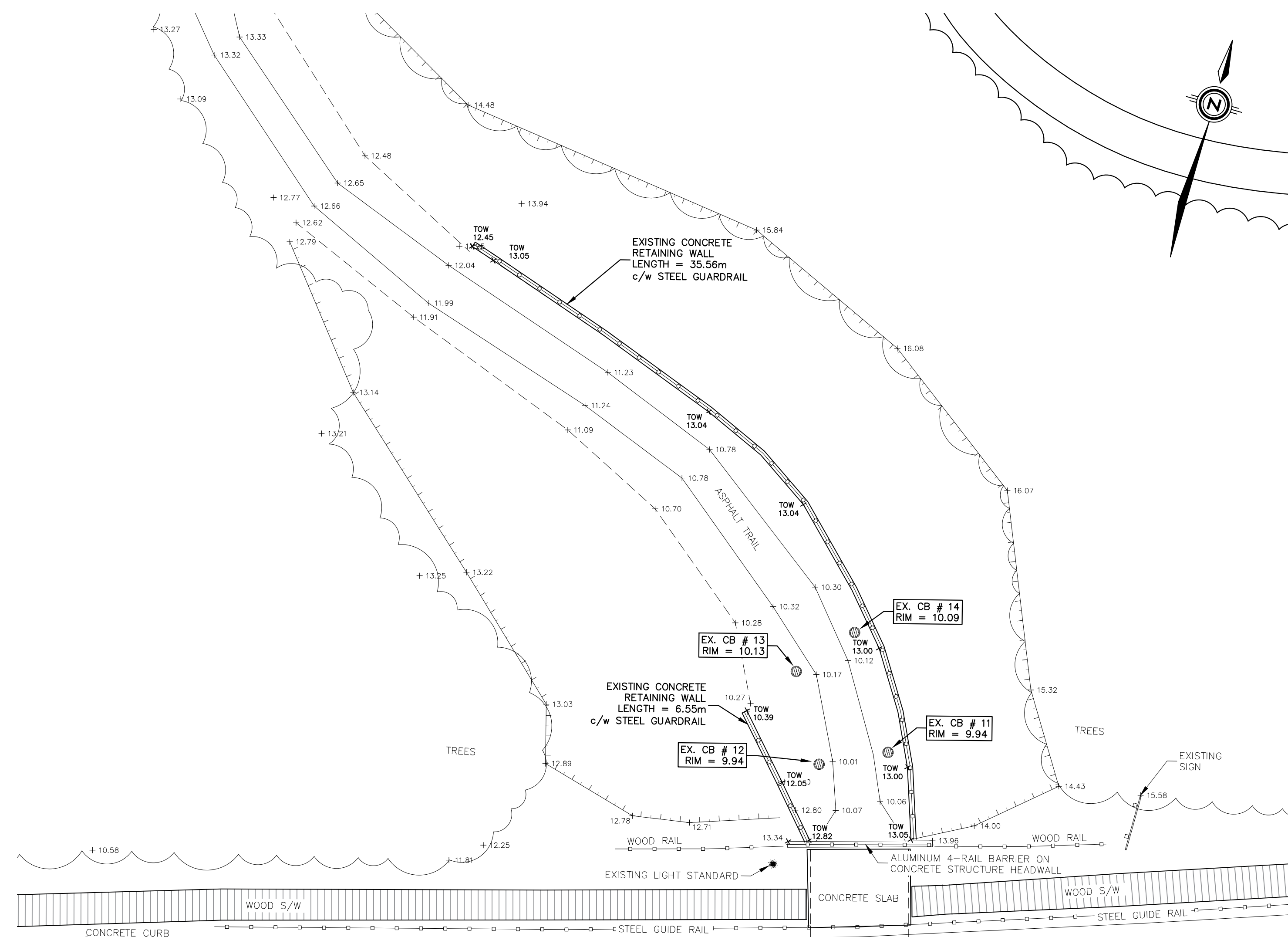


CAVENDISH ROAD - RTE 6

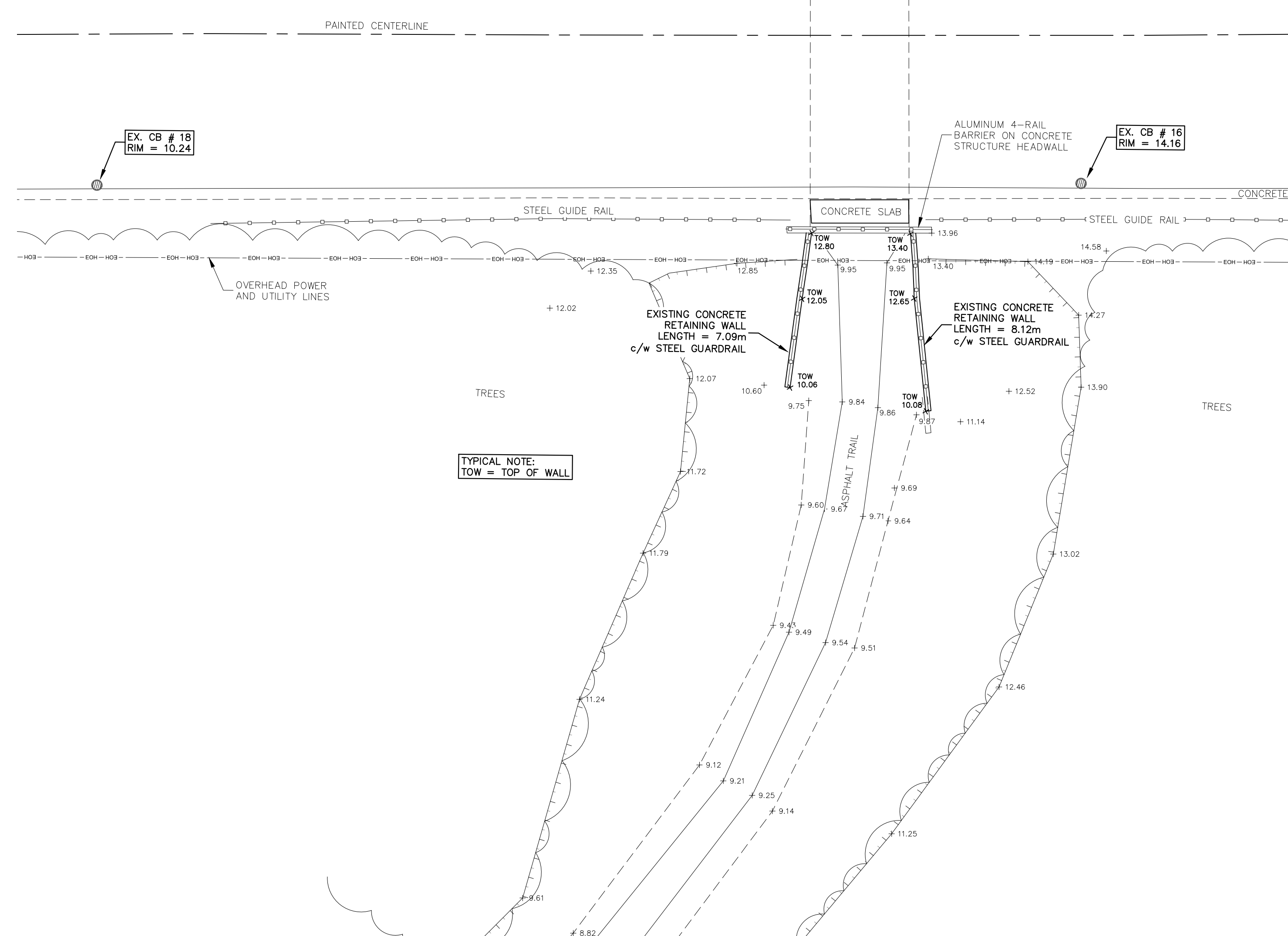


PATHWAY #1 EXISTING SITE CONDITIONS

SCALE : 1:150



CAVENDISH ROAD - RTE 6

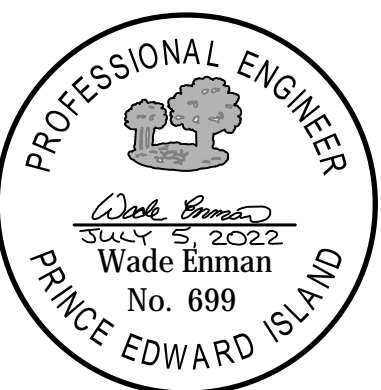


PATHWAY #2 EXISTING SITE CONDITIONS

SCALE : 1:150



NOTES:  
 1. SEE RETAINING WALL CONSTRUCTION NOTES ON DRAWING S5.



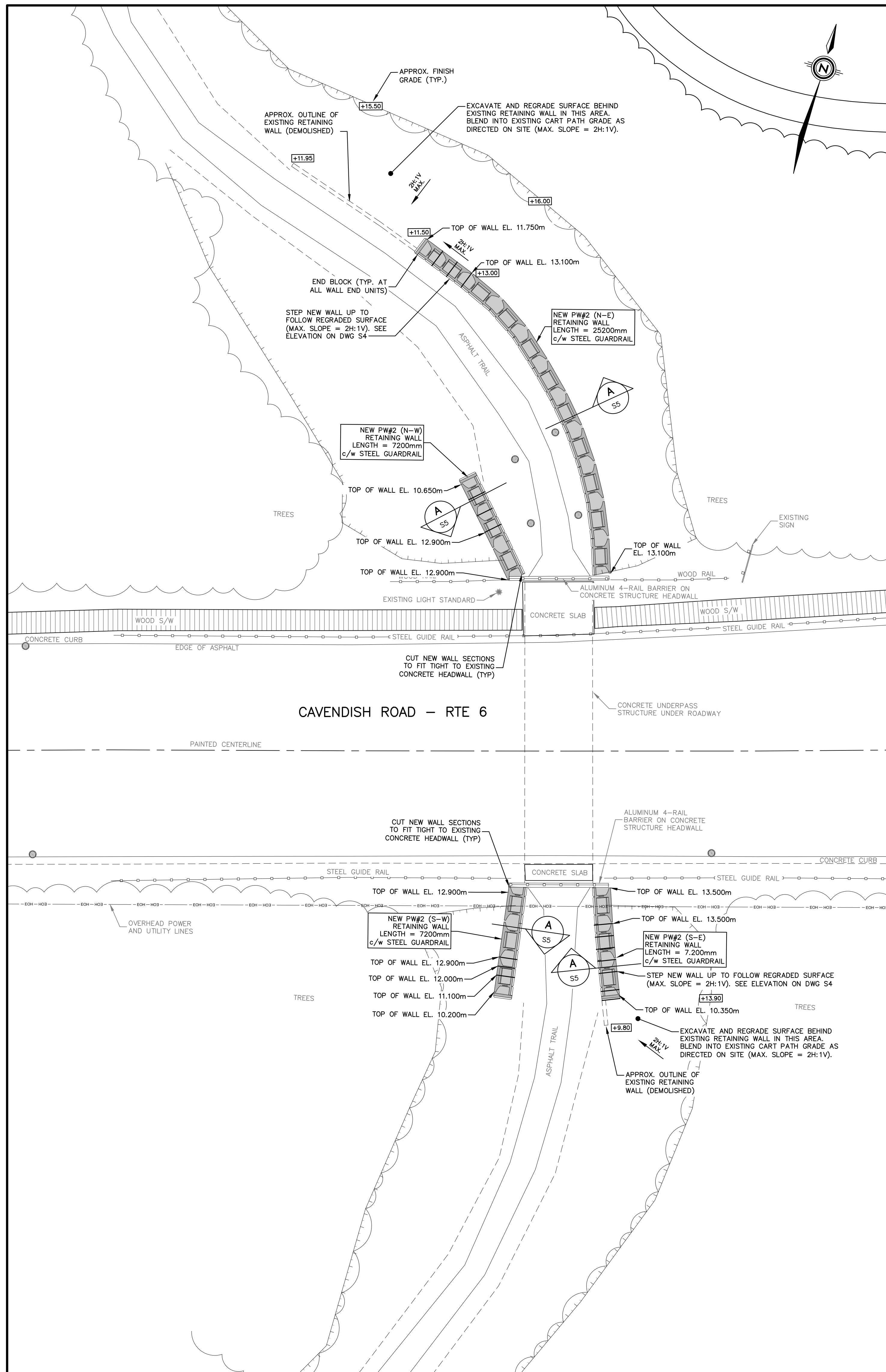
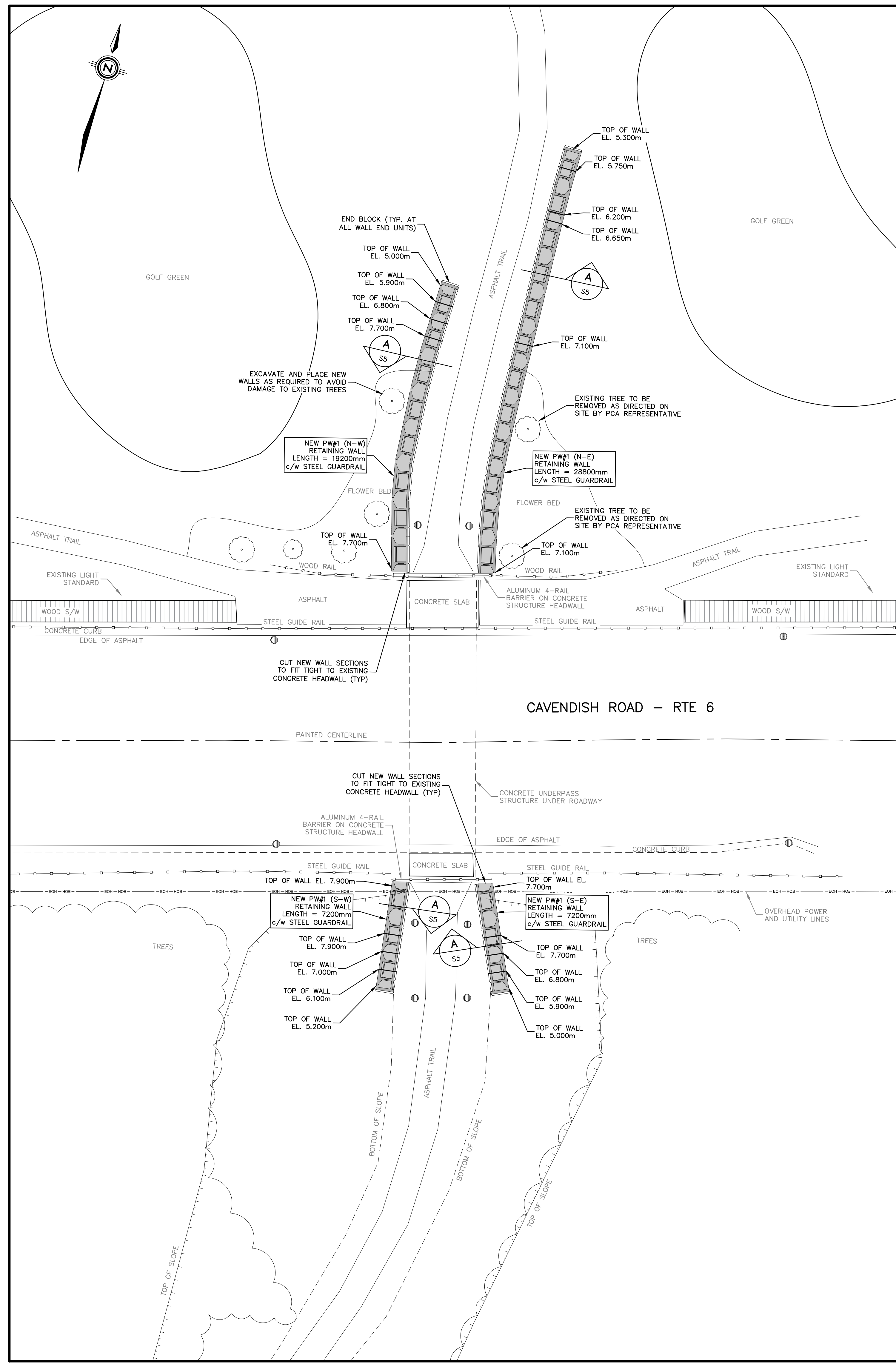
0	ISSUED FOR TENDER	22/07/05
revisions		date

project **GREEN GABLES GOLF COURSE CART PATH RETAINING WALLS REPLACEMENT** project

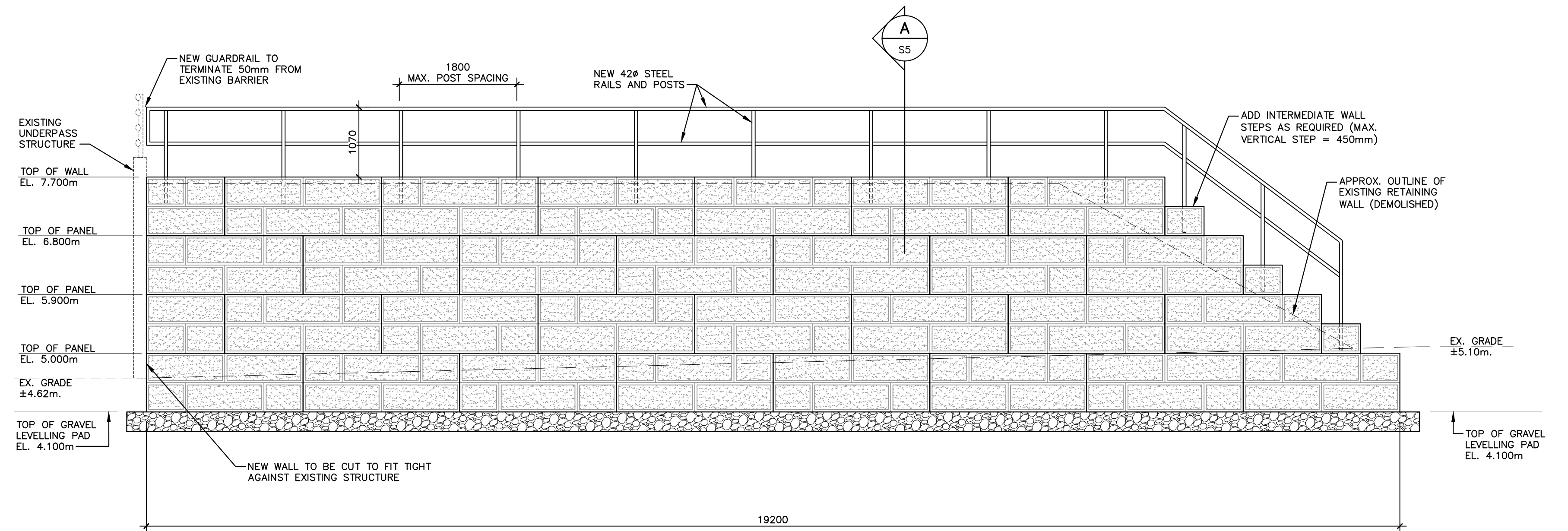
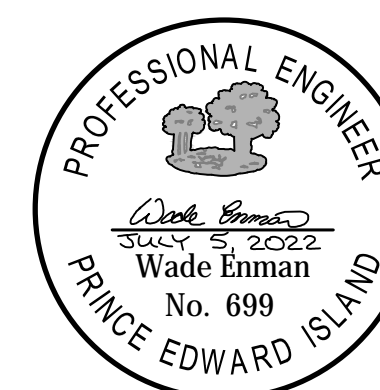
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designed	WE	compu
date	2021-12-17	
drawn	DB	dessiné
date	2021-12-17	
approved	WE	approuvé
date	2021-12-17	
Tender		Submission
PWGSC Project Manager		Administrateur de projets TPSSC
project number		no. du projet

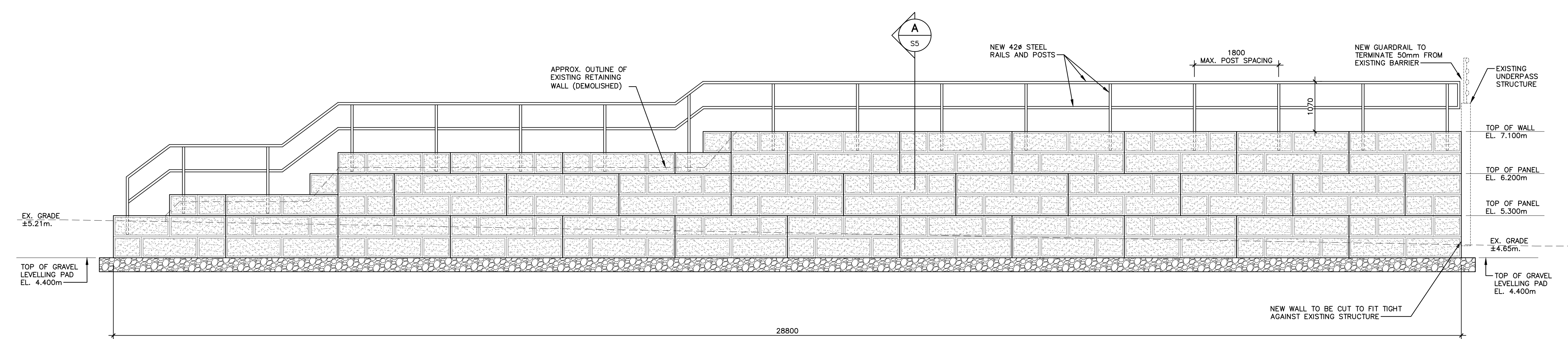
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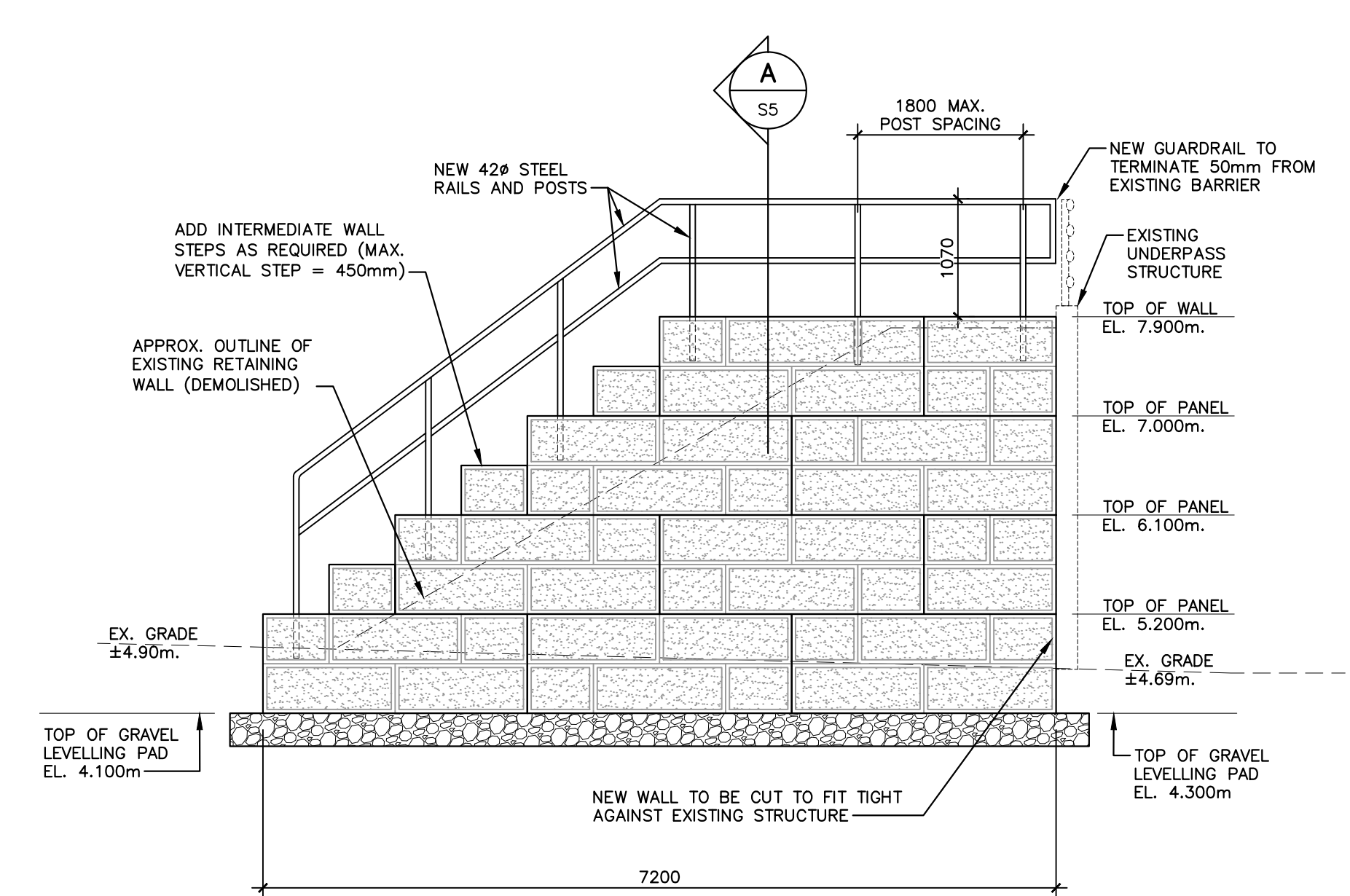
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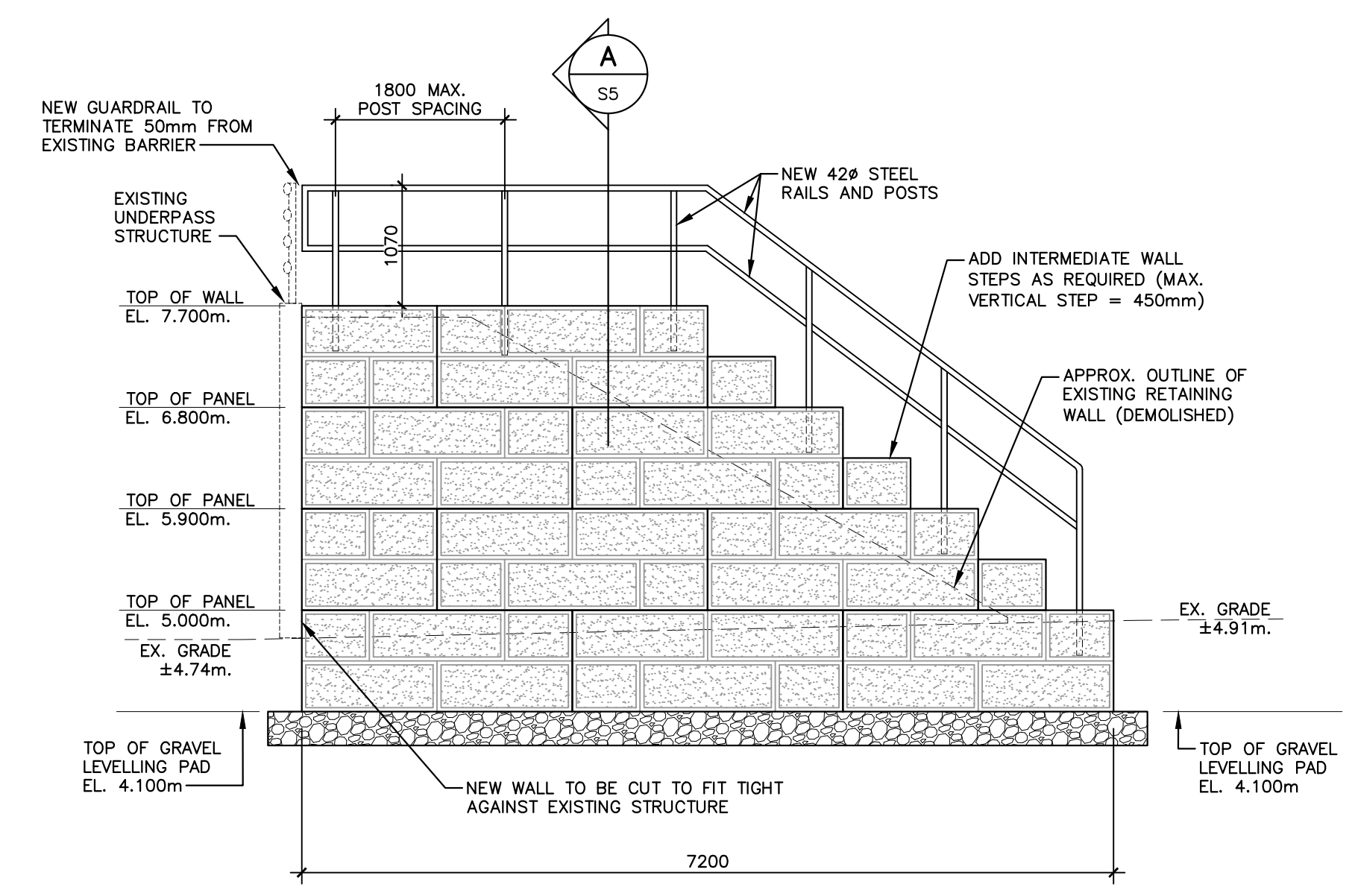
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(NORTH-WEST WALL)



PW#1 N-E  
(NORTH-EAST WALL)



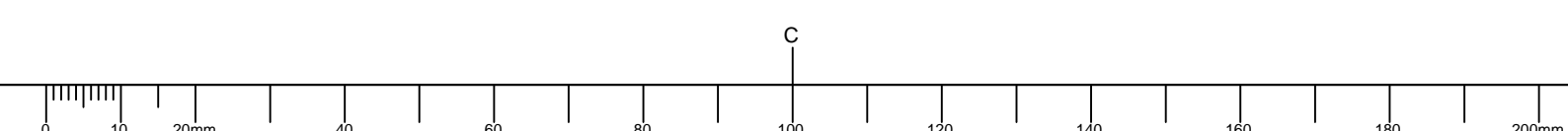
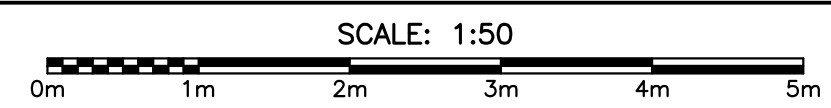
PW#1 S-W  
(SOUTH-WEST WALL)



PW#1 S-E  
(SOUTH-EAST WALL)

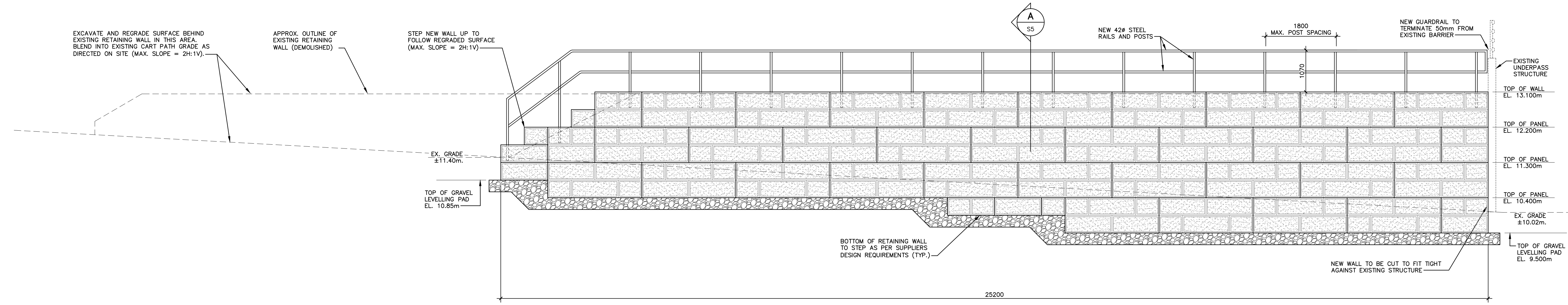
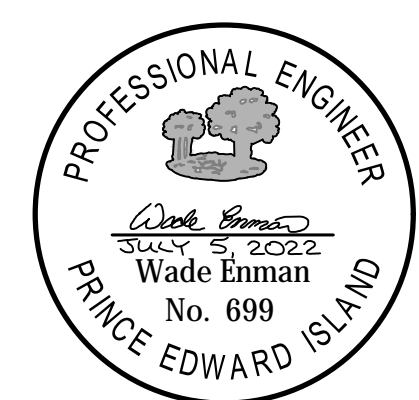
NOTE:  
ALL WALL LAYOUTS AND BLOCK PATTERNS ARE SHOWN AS EXAMPLE ONLY. FINAL WALL PATTERNS AND FINISH TO BE AS PER APPROVED RETAINING WALL SUPPLIER SHOP DRAWINGS.

PATHWAY #1 NEW RETAINING WALL ELEVATIONS

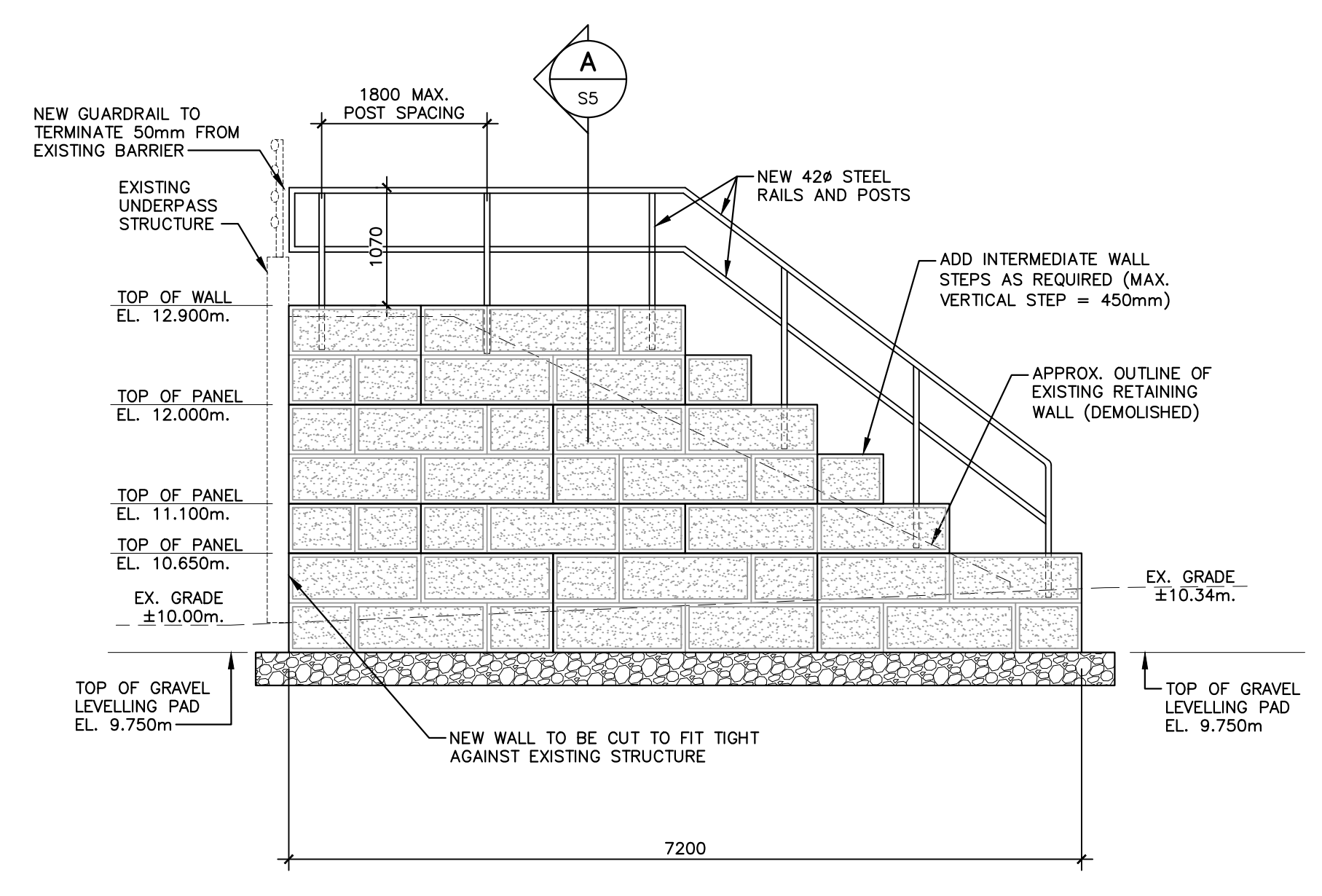


0	ISSUED FOR TENDER	22/07/05
revisions		date
project	<b>GREEN GABLES GOLF COURSE CART PATH RETAINING WALLS REPLACEMENT</b>	project
drawing		design
designed	WE	comp
date	2021-12-17	
drawn	DB	design
date	2021-12-17	
approved	WE	approved
date	2021-12-17	
Tender		Submission
PWGSC Project Manager	Administrateur de projets TPSGC	
project number		no. du projet
drawing no.	<b>S3</b>	no. du dessin

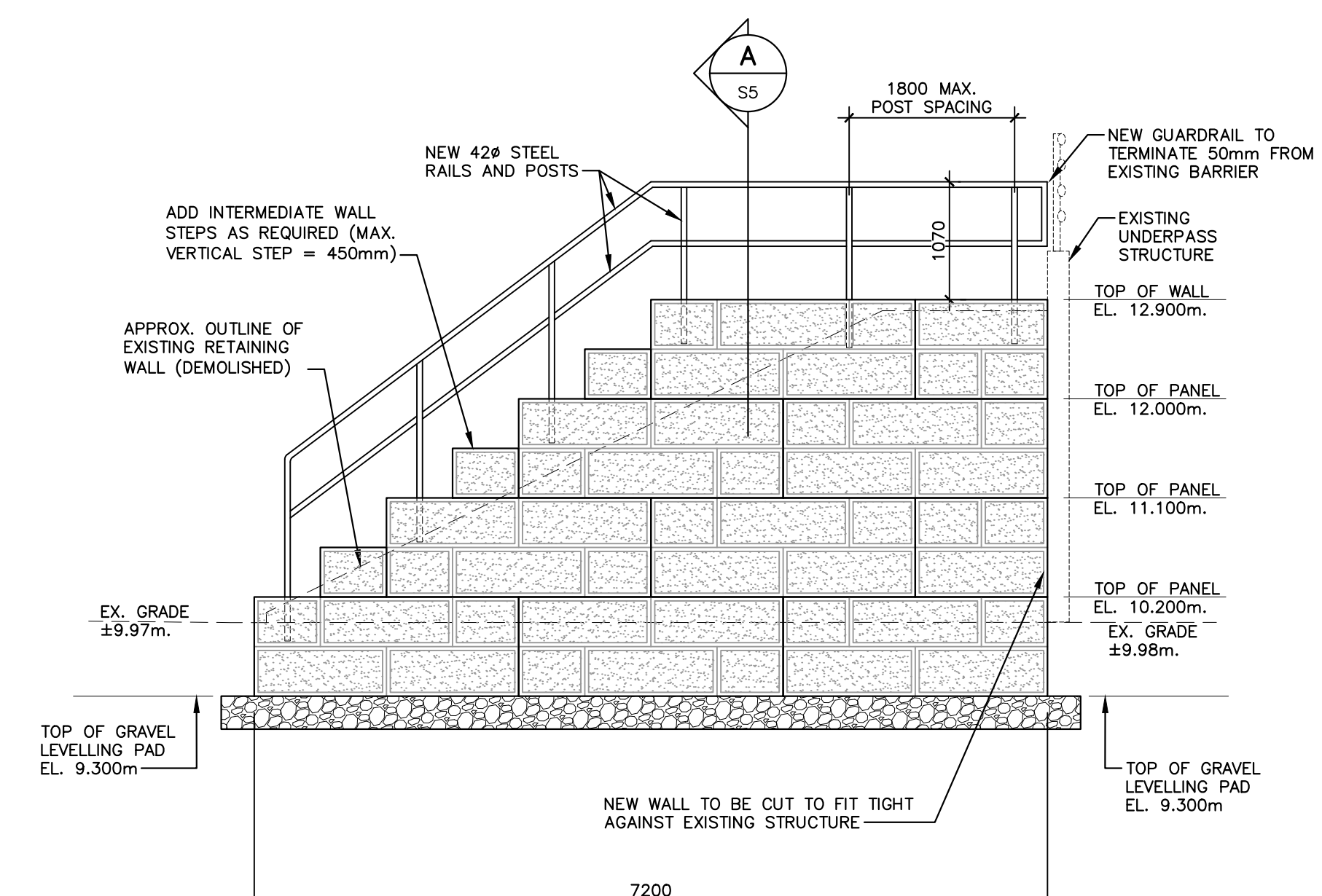
NOTES:  
 1. SEE RETAINING WALL CONSTRUCTION NOTES ON DRAWING S5.



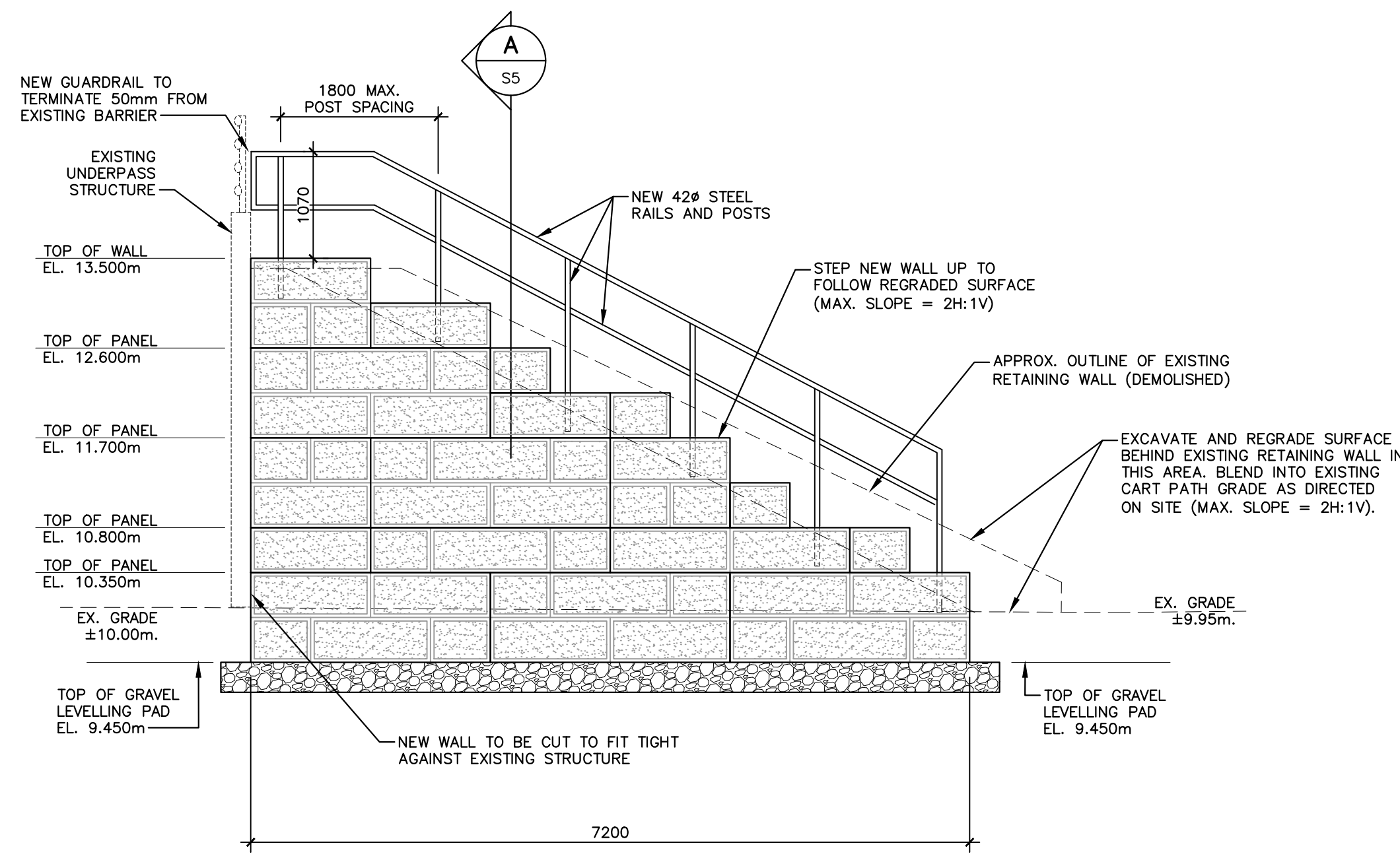
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**PW#2 N-W (NORTH-WEST WALL)**



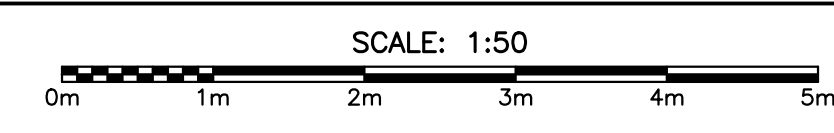
**PW#2 S-W (SOUTH-WEST WALL)**



**PW#2 S-E (SOUTH-EAST WALL)**

NOTE:  
 ALL WALL LAYOUTS AND BLOCK PATTERNS ARE SHOWN AS EXAMPLE ONLY. FINAL WALL PATTERNS AND FINISH TO BE AS PER APPROVED RETAINING WALL SUPPLIER SHOP DRAWINGS.

**PATHWAY #2 NEW RETAINING WALL ELEVATIONS**



0	ISSUED FOR TENDER	22/07/05
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project **GREEN GABLES GOLF COURSE CART PATH RETAINING WALLS REPLACEMENT**

**PATHWAY #2 NEW RETAINING WALL ELEVATIONS**

designed	WE	conçu
date	2021-12-17	
drawn	DB	dessiné
date	2021-12-17	
approved	WE	approuvé
date	2021-12-17	
Tender		Soumission
PWGSC Project Manager		Administrateur de projets TPSGC
project number		no. du projet
drawing no.	<b>S4</b>	no. du dessin

0	ISSUED FOR TENDER	22/07/05
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revisions	date
project	project
<b>GREEN GABLES GOLF COURSE CART PATH RETAINING WALLS REPLACEMENT</b>	
drawing	design

<b>NEW RETAINING WALL ELEVATIONS</b>		
designed	WE	conpu
date	2021-12-17	
drawn	DB	designé
date	2021-12-17	
approved	WE	approuvé
date	2021-12-17	
Tender	Soumission	
PWGSC Project Manager	Administrateur de projets TPWGC	
project number	no. du projet	
drawing no.	no. du dessin	

<b>S5</b>		
E-DRM/GDD-E		

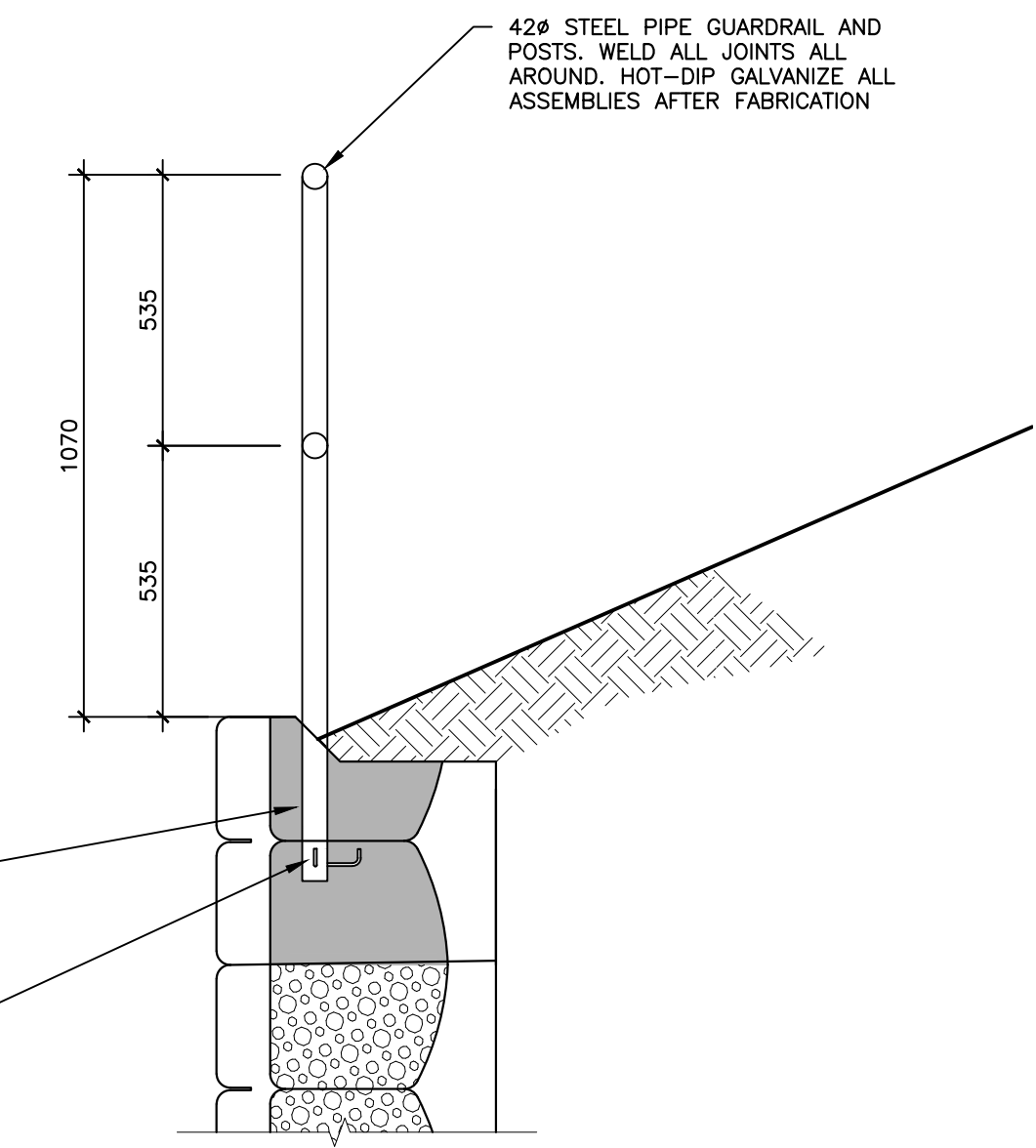
**GENERAL CONSTRUCTION NOTES**

- SEE ALL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS.
- ALL WORKS AND SERVICE INSTALLATION TO BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM WORKS. COMPLY WITH ALL PERMIT REQUIREMENTS AND CONDITIONS.
- DO NOT SUBSTITUTE MATERIALS UNLESS PRIOR WRITTEN APPROVAL IS GIVEN BY THE PCA REPRESENTATIVE.
- PRIOR TO CONSTRUCTION ACTIVITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE LOCATION OF ALL UNDERGROUND UTILITIES IN THE AREA OF WORK IN COORDINATION WITH THE RESPECTIVE SERVICE PROVIDERS. REPORT ANY CONFLICTS TO THE PCA REPRESENTATIVE.
- THE CONTRACTOR IS TO REVIEW WITH THE PCA REPRESENTATIVE REGARDING ALL TREES, SHRUBS AND OTHER PLANTINGS IN THE VICINITY OF THE WORK IN ORDER TO VERIFY ALL ITEMS THAT ARE TO BE PROTECTED DURING CONSTRUCTION AND ALL ITEMS WHICH CAN BE REMOVED AND REINSTATED AFTER COMPLETION.
- ACCESS TO THE GOLF GREENS AND ADJACENT AREAS AT PATHWAY 1 ARE NOT PERMITTED. ALL ACCESS TO THE GOLF COURSE TO BE REVIEWED WITH THE PCA REPRESENTATIVE PRIOR TO COMMENCEMENT OF THE WORK.
- ALL AREAS DISTURBED DURING CONSTRUCTION (I.E. ASPHALT, CONCRETE, GRASS, PLANTINGS, MULCHED AREAS, ETC.) ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION TO THE APPROVAL OF THE PCA REPRESENTATIVE. ALL COSTS FOR REINSTATEMENT ARE TO BE CONSIDERED INCIDENTAL TO ITEM BEING INSTALLED. NO EXTRA WILL BE ALLOWED.
- ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATIONS INCLUDING THE PEI DEPARTMENT OF TRANSPORTATION, INFRASTRUCTURE & ENERGY "GENERAL PROVISIONS AND CONTRACT SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - LATEST EDITION, WHERE A CONFLICT BETWEEN THE DRAWINGS AND SPECIFICATIONS OCCUR, THE SPECIFICATION SHALL TAKE PRECEDENCE.
- THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND ELEVATIONS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THE PCA REPRESENTATIVE PRIOR TO CONSTRUCTION.
- THE CONTRACTOR IS TO OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM WORKS. COMPLY WITH ALL PERMIT REQUIREMENTS AND CONDITIONS.
- THE CONTRACTOR IS TO COORDINATE WITH THE PCA REPRESENTATIVE REGARDING CONSTRUCTION SCHEDULE PRIOR TO COMMENCING CONSTRUCTION.

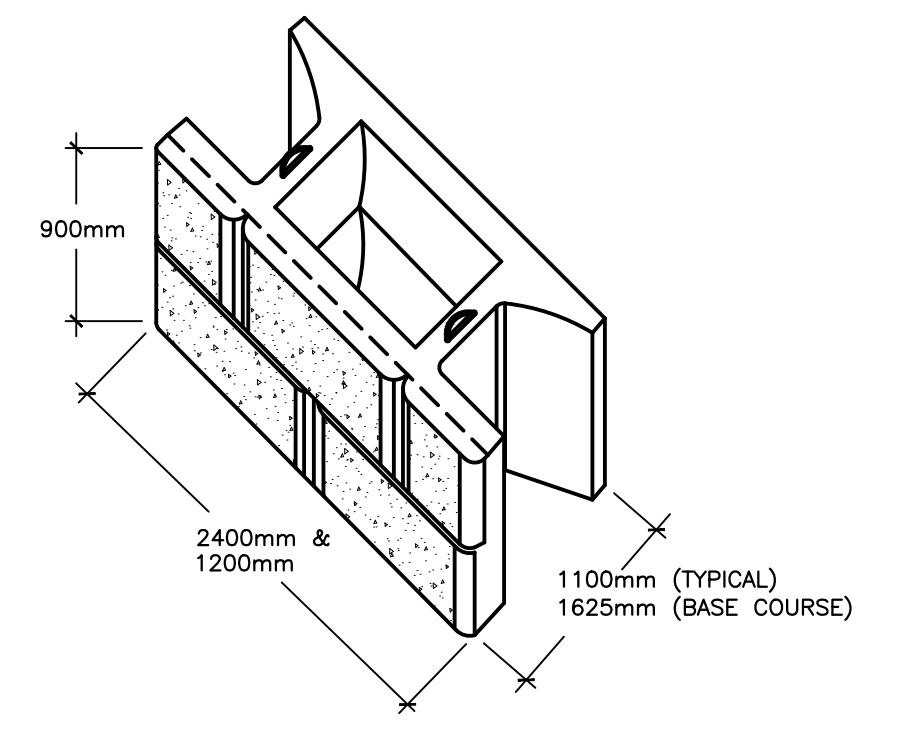
**RETAINING WALL CONSTRUCTION NOTES**

- GENERAL**
- FOR HANDLING, STORAGE, TRANSPORTATION, ERECTION, WEIGHTS AND CONSTRUCTION MATERIAL INFORMATION, PLEASE REFER TO MANUFACTURERS RECOMMENDATIONS.
  - TOLERANCE FOR STRUCTURAL ELEMENTS, MATERIALS & CONSTRUCTION CONFORM TO CAN/CSA A23.4 "PRECAST CONCRETE" CLAUSE 10.
  - WALL CONSTRUCTION TO BE REVIEWED AND CERTIFICATION TO BE PROVIDED BY PROJECT GEOTECHNICAL ENGINEER. SUPPLIER'S REPRESENTATIVE TO BE ON-SITE PERIODICALLY THROUGHOUT INSTALLATION.
  - SUBGRADE BELOW WALL UNITS TO BE APPROVED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF LEVELLING PAD. APPROVED SUBGRADE SHALL CONSIST OF NATIVE UNDISTURBED TILL, INTACT BEDROCK OR APPROVED STRUCTURAL FILL.
  - RETAINING WALL REQUIRES GOOD BEARING CONDITIONS WITH ALLOWABLE BEARING PRESSURE OF 2,500 psf (120kpa). IN FIRM OR SOFT CONDITIONS WITH REDUCED BEARING PRESSURE, THICKNESS AND WIDTH OF GRANULAR BASE WILL NEED TO BE INCREASED. CONCRETE FOOTING MAY BE NECESSARY IN POOR SOIL CONDITIONS. BEARING CONDITIONS TO BE CONFIRMED BY GEOTECHNICAL CONSULTANT.
  - RETAINING WALL DESIGN COMPLETED BASED ON ASSUMED MINIMUM RETAINED SOIL PROPERTIES OF: FRICTION ANGLE=36° UNIT WEIGHT=135pcf (21kN/m³) COHESION=0
  - GEOTECHNICAL ENGINEER TO VERIFY EXISTING SOIL CONDITIONS MEET OR EXCEED THESE ASSUMPTIONS DURING CONSTRUCTION AND REPORT ANY DISCREPANCY TO THE DESIGN ENGINEER IMMEDIATELY.
- CONCRETE**
- CONCRETE MIX DESIGNS SHALL CONFORM TO REQUIREMENTS SET FORTH BY CAN/CSA A23.1 (LATEST EDITION) WITH THE FOLLOWING CRITERIA: CONCRETE STRENGTH = 28 MPa AT TIME OF STRIPPING. DESIGN CONCRETE STRENGTH OF 45 MPa AT 28 DAYS OR TIME OF SHIPPING, 5.5% TO 8.5% AIR ENTRAINMENT. GALLANT AGGREGATE SHALL BE USED WITH A NOMINAL AGGREGATE SIZE OF 13mm
  - CONCRETE CURING SHALL BE IN CONFORMANCE WITH CAN/CSA A23.1 (LATEST EDITION).
  - ALL RETAINING WALL BLOCK REINFORCING IS TO BE GALVANIZED.
  - WALL BLOCKS ARE TO HAVE AN APPROVED CHISELED GRANITE ASHLAR PATTERN FINISH.
  - WALL BLOCKS ARE TO BE FINISHED WITH THE FOLLOWING ANTI-GRAFFITI PRODUCT: 2 COATS OF AMERLOCK 2 COATING 1 COAT OF AMERSHIELD CLEAR RESIN
- CONSTRUCTION**
- WALL BASE TO BE CLASS "A" GRAVEL OR AS REQUIRED BY RETAINING WALL DESIGNER. WALL BASE TO BE MINIMUM 300mm DEEP AND EXTEND A MINIMUM 225mm BEYOND THE BLOCK UNIT AND COMPACTED TO 95% STANDARD PROCTOR DENSITY. GRAVEL USED IN WALL BASE TO HAVE A MINIMUM INTERNAL FRICTION ANGLE OF 36°.
  - USE CAUTION NOT TO OVER-EXCAVATE BEYOND DEPTH REQUIRED FOR THE TRENCH.
  - BEGIN CONSTRUCTION OF WALL BASE AT LOWEST WALL ELEVATION AND ENSURE THAT EACH WALL BLOCK UNIT IS LEVEL BEFORE PROCEEDING TO NEXT UNIT.
  - VOIDS IN AND BETWEEN WALL BLOCK UNITS TO BE FILLED WITH 25mm CLEAR STONE. (ROUND ROCK AND PEA GRAVEL SHOULD NOT BE USED) ALTERNATE FILLING BLOCK UNIT THEN BACKFILL BEHIND WALL (SITE MATERIAL AS APPROVED BY GEOTECHNICAL ENGINEER) IN 200mm LIFTS.
  - COMPACT SOILS TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY. USE ONLY SMALL MECHANICAL COMPACTION EQUIPMENT WITHIN 900mm OF WALL UNITS.
  - PLACE FIRST UNIT OF SECOND COURSE ONE-HALF ON THE FIRST BASE UNIT AND ONE-HALF ON THE SECOND BASE UNIT SUCH THAT UNITS ARE STAGGERED AS WALL IS BUILT UP OR AS RECOMMENDED BY THE DESIGNER. CLEAN ALL DEBRIS FROM THE TOP OF UNIT TO ENSURE THE NEXT UNIT SETS EVENLY UPON THE UNITS BELOW.
  - OVERALL SITE DESIGN AS PER WSP GRADING PLAN.

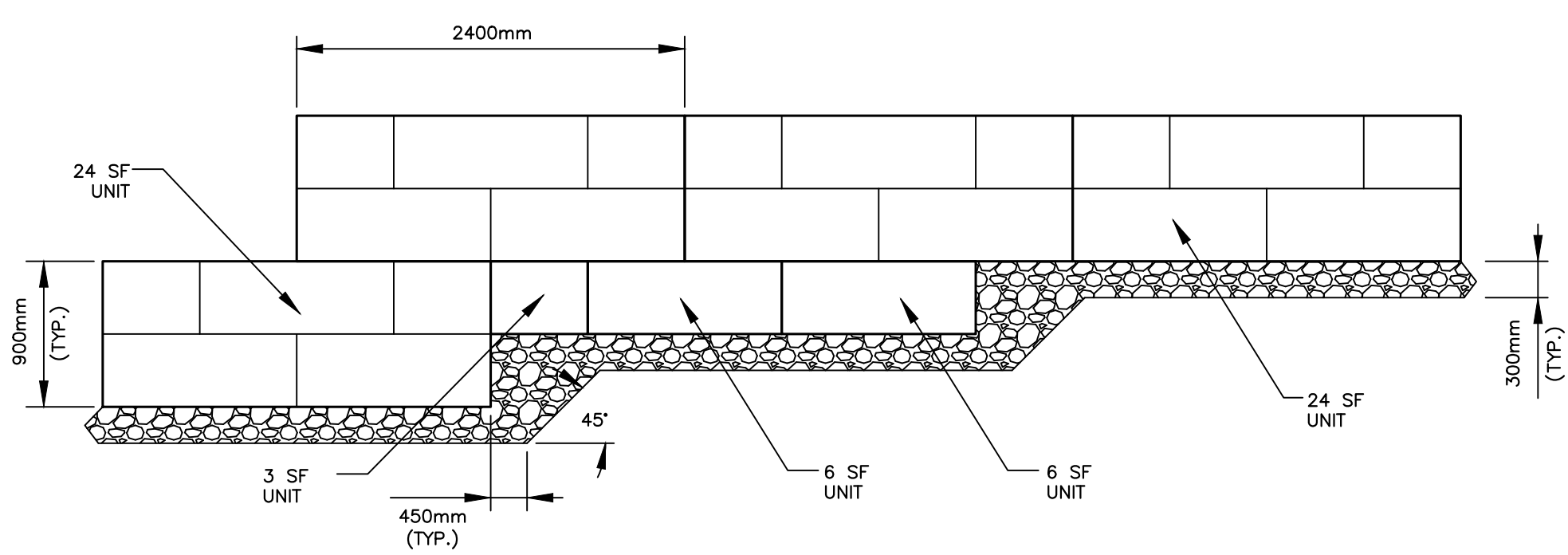
- TYPICAL STEEL PIPE RAIL NOTES:**
- ALL CORNERS AND END CAPS TO BE FABRICATED USING MANUFACTURED WELDING ELBOWS AND ROUNDED PIPE CAPS. GRIND ALL WELDS SMOOTH.
  - RAILS ARE TO BE FABRICATED IN LARGEST SECTIONS PRACTICAL FOR SHIPPING AND/OR GALVANIZING. KEEP FIELD SPACING OF HANDRAILS TO A MINIMUM.
  - PROVIDE DRILLED HOLES IN INCONSPICUOUS LOCATIONS (UNDERSIDE) AS REQUIRED FOR GALVANIZING PROCESS. TORCH CUTTING OF VENTING HOLES IS NOT ACCEPTABLE.
  - HOT-DIP GALVANIZE ALL FABRICATED ASSEMBLIES. FABRICATING ASSEMBLIES FROM GALVANIZED MATERIALS IS NOT ACCEPTABLE.
  - ALL GALVANIZED COATINGS TO BE CLEAN AND OF UNIFORM TEXTURE AND APPEARANCE. EXCESSIVELY MOTTLED COATINGS, DAMAGE FROM STORAGE, BLOCKING OR TRANSPORTATION OF ASSEMBLIES MAY BE CAUSE FOR REJECTION OF GALVANIZED ASSEMBLIES.
  - FIELD WELD RAIL SPLICES AND GRIND ALL WELDS SMOOTH. IF CONTRACTOR WISHES TO PROVIDE FIELD BOLTED SPLICES, SUBMIT DETAILED SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. ONLY CONCEALED TYPE CONNECTIONS USING HOT-DIP GALVANIZED HARDWARE WILL BE CONSIDERED.
  - TOUCH-UP ALL DAMAGED GALVANIZED SURFACES WITH ZINC-RICH COLD GALVANIZING COMPOUND SUCH AS GALVAFROID (O.A.E.).



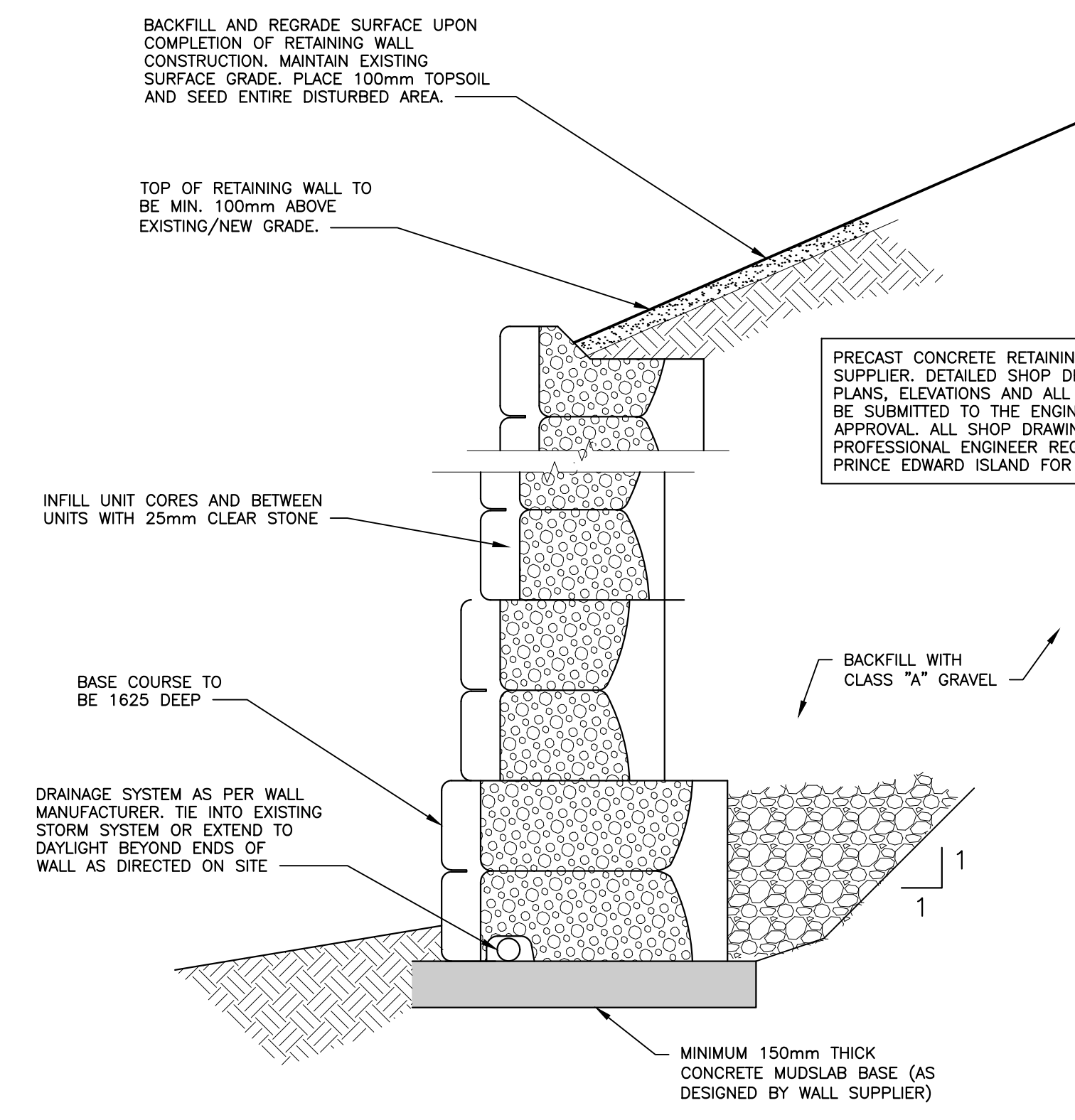
**TYPICAL WALL GUARDRAIL**



**TYPICAL PRECAST UNIT EXAMPLE**



**TYPICAL WALL BASE STEP**  
NOT TO SCALE



**NEW RETAINING WALL TYPICAL CROSS-SECTION**

A  
S5

NOT TO SCALE